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<110> Venta, Patrick J.  
Brewer, George J.  
Vilma, Yuzbasiyan-Gurkan  
Schall, William D.

<120> DNA ENCODING CANINE VON WILLEBRAND FACTOR AND METHOD  
OF USE

<130> UMV-1226CPPCUS

<140> US 09/662,478  
<141> 2000-09-15

<150> 09/132,652  
<151> 1998-08-11

<150> PCT/US94/18153  
<151> 1999-08-10

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<170> PatentIn Ver. 1.1.0

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1125

1130

1135

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Cys Pro Ile Thr Cys Gln His Pro Glu Pro Leu Ala Cys Pro Val Gln  
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Pro Pro Leu His Asp Phe His Cys Ser Arg Leu Leu Asp Leu Val Phe  
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Leu Leu Asp Gly Ser Ser Lys Leu Ser Glu Asp Glu Phe Glu Val Leu  
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Leu Lys Tyr Thr Leu Ile Gln Ile Ile Gly Lys Ile Asp Arg Ile Gln  
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Ala Ser Arg Ile Ala Leu Leu Leu Met Ala Ser Gln Gln Ile Ser Arg  
1385 1390 1395 1400

Leu Val Val Val Lys Tyr Val Arg Ile Val Val Lys Arg Ile Val Thr

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                                 1445                      1450                      1455  
Leu Cys Asp Leu Ala Pro Glu Ala Pro Ala Pro Thr Gln His Pro Pro  
                                 1460                      1465                      1470  
Met Ala Gln Val Thr Val Gly Ser Glu Leu Leu Gly Val Ser Ser Pro  
                                 1475                      1480                      1485  
Gly Pro Lys Arg Asn Ser Met Val Leu Asp Val Val Phe Val Leu Glu  
                                 1490                      1495                      1500  
Gly Ser Asp Lys Ile Gly Glu Ala Asn Phe Asn Lys Ser Arg Glu Phe  
1505                      1510                      1515                      1520  
Met Glu Glu Val Ile Gln Arg Met Asp Val Gly Gln Asp Arg Ile His  
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Val Thr Val Leu Gln Tyr Ser Tyr Met Val Thr Val Glu Tyr Thr Phe  
                                 1540                      1545                      1550  
Ser Glu Ala Gln Ser Lys Gly Glu Val Leu Gln Gln Val Arg Asp Ile  
                                 1555                      1560                      1565  
Arg Tyr Arg Gly Gly Asn Arg Thr Asn Thr Gly Leu Ala Leu Gln Tyr  
                                 1570                      1575                      1580  
Leu Ser Glu His Ser Phe Ser Val Ser Gln Gly Asp Arg Glu Gln Val  
1585                      1590                      1595                      1600  
Pro Asn Leu Val Tyr Met Val Thr Gly Asn Pro Ala Ser Asp Glu Ile  
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Lys Arg Met Pro Gly Asp Ile Gln Val Val Pro Ile Gly Val Gly Pro  
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His Ala Asn Val Gln Glu Leu Glu Lys Ile Gly Thr Pro Asn Ala Pro  
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Val Leu Ile His Arg Pro Glu Met Leu Pro Asn Ala Asn Pro Arg Leu  
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Val Leu Gln Arg Tyr Tyr Ser Gly Glu Gly Leu His Ile Thr Thr Leu  
1665                      1670                      1675                      1680  
Ser Pro Thr Pro Asp Tyr Ser Glu Pro Leu Asp Val Val Leu Leu Leu  
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1736

1738

1740

Trp Asn Val Ala Tyr Glu Lys Val His Leu Leu Ser Leu Val Asp Leu  
1745 1750 1755 1760

Met Gln Gln Glu Gly Gly Pro Ser Glu Ile Gly Asp Ala Leu Ser Phe  
1765 1770 1775

Ala Val Arg Tyr Val Thr Ser Glu Val His Gly Ala Arg Pro Gly Ala  
1780 1785 1790

Ser Lys Ala Val Val Ile Leu Val Thr Asp Val Ser Val Asp Ser Val  
1795 1800 1805

Asp Ala Ala Ala Glu Ala Ala Arg Ser Asn Arg Val Thr Val Ile Pro  
1810 1815 1820

Ile Gly Ile Gly Asp Arg Tyr Ser Glu Ala Gln Leu Ser Ser Leu Ala  
1825 1830 1835 1840

Gly Pro Lys Ala Gly Ser Asn Met Val Arg Leu Gln Arg Ile Glu Asp  
1845 1850 1855

Leu Pro Thr Val Ala Thr Leu Gly Asn Ser Phe Phe His Lys Leu Lys  
1860 1865 1870

Ser Gly Phe Asp Arg Val Cys Val Asp Glu Asp Gly Asn Glu Lys Arg  
1875 1880 1885

Pro Gly Asp Val Trp Thr Leu Pro Asp Gln Cys His Thr Val Thr Cys  
1890 1895 1900

Leu Pro Asp Gly Gln Thr Leu Leu Lys Ser His Arg Val Asn Cys Asp  
1905 1910 1915 1920

Arg Gly Pro Arg Pro Ser Cys Pro Asn Gly Gln Pro Pro Leu Arg Val  
1925 1930 1935

Gln Gln Thr Cys Gly Cys Arg Trp Thr Cys Pro Cys Val Cys Met Gly  
1940 1945 1950

Val Ser Thr Arg His Val Val Thr Thr Asp Gly Val Asn Thr Val Val  
1955 1960 1965

Thr Gly Ser Cys Ser Tyr Val Leu Ile Gln Asn Lys His Thr Asp Leu  
1970 1975 1980

His Val Ile Leu Gln Asn Gly Ala Tyr Ser Pro Gly Ala Lys Val Thr  
1985 1990 1995

Val Val Val Val Val Val Val Val Val Val Val Val Val Val Val Val

2035

2040

2045

Glu Val Arg Phe Asn His Leu Gly His Ile Ile Thr Phe Thr Pro Gln  
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Thr Tyr Gly Leu Cys Gly Ile Cys Asp Glu Asn Gly Ala Asn Asp Phe  
2085 2090 2095

Ile Leu Arg Asp Gly Thr Val Thr Thr Asp Trp Lys Ala Leu Ile Gln  
2100 2105 2110

Glu Trp Thr Val Gln Gln Leu Gly Lys Thr Ser Gln Pro Val His Glu  
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Tyr Leu Ser Thr Arg Gly Val Asn His Gln His Leu Ile Thr Thr Val  
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Pro Ala His Gln Pro Cys Gln Ile Cys Thr Cys Leu Ser Gly Ala Lys  
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Val Asn Cys Thr Leu Gln Pro Cys Pro Thr Ala Lys Ala Pro Thr Cys  
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Thr Ser Arg Val Thr Val Thr Val Thr Met Thr Thr Thr Thr Thr Thr

2340

2345

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Lys Thr Gln Cys Cys Asp Glu Tyr Glu Cys Ala Cys Asn Cys Val Asn  
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Ser Thr Val Ser Cys Pro Leu Gly Tyr Leu Ala Ser Ala Val Thr Asn  
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Asp Cys Gly Cys Thr Thr Thr Thr Cys Phe Pro Asp Lys Val Cys Val  
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His Arg Gly Thr Ile Tyr Pro Val Gly Gln Phe Trp Glu Gln Ala Cys  
2435 2440 2445

Asp Val Cys Thr Cys Thr Asp Leu Glu Asp Ser Val Met Gly Leu Arg  
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Val Ala Gln Cys Ser Gln Lys Pro Cys Glu Asp Asn Cys Leu Ser Gly  
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Phe Thr Tyr Val Leu His Glu Gly Gln Cys Cys Gly Arg Cys Leu Pro  
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His Trp Lys Asn Val Gly Ser His Trp Ala Ser Pro Asp Asn Pro Cys  
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Lys Ser Leu Met Ile Arg Val Cys Thr Thr Cys Asn Cys Thr Val Pro  
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Arg Thr Thr Thr Thr Thr Thr Thr Thr Thr Thr Thr Thr Thr Thr Thr

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2725 2730 2735  
Gly Asp Cys Lys Ser Glu Glu Glu Val Asp Ile His Tyr Cys Glu Gly  
2740 2745 2750  
Lys Cys Ala Ser Lys Ala Val Tyr Ser Ile His Met Glu Asp Val Gln  
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